Claims

We claim:

1. A process for obtaining single enantiomer *d-threo*-methylphenidate or *l-threo*-methylphenidate, which comprises resolution of a mixture of the *d-threo*-methylphenidate and *l-threo*-methylphenidate enantiomers; racemisation of the unwanted enantiomer, to give a mixture of all four stereoisomers, wherein the equilibrium of said racemisation proceeds in favor of the *d-threo* and *l-threo* stereoisomers over the *d-erythro* and *l-erythro* stereoisomers of methylphenidate; and separation of the *d-erythro* and *l-erythro* stereoisomers, to leave the said mixture of *d-threo*-methylphenidate and *l-threo*-methylphenidate enantiomers for resolution.

2. The process, according to claim 1, wherein the single enantiomer obtained is the *d-threo* isomer, *i.e.*, the isomers of (*R,R*) absolute configuration.

3. The process, according to claim 1, wherein the racemisation comprises heating the unwanted enantiomer with a carboxylic acid, wherein said carboxylic acid is achiral.

4. The process, according to claim 1, wherein the separation is conducted following hydrolysis of the mixture of stereoisomers, to give ritalinic acid, and before or after re-esterification of the acid.

5. The process, according to claim 4, which additionally comprises equilibrating the product of hydrolysis wherein the *threo* diastereoisomer is preferentially obtained.

6. The process, according to claim 1, wherein the resolution is conducted using a chiral acid.

7. The process, according to claim 6, wherein the acid is *O,O'*-ditoluoyltartaric acid.